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A CITY BANK

BY

FORREST SEILER RUSK

THESIS

For the Degree of

BACHELOR OF SCIENCE

IN ARCHITECTURE

COLLEGE OF ENGINEERING

UNIVERSITY OF ILLINOIS

Presented June 1909



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June 1, 1909

THIS IS TO CERTIFY THAT THE THESIS PREPARED UNDER MY SUPERVISION BY

FORREST SEILER RUSK.

ENTITLED A CITY BANK

IS APPROVED BY ME AS FULFILLING THIS PART OF THE REQUIREMENTS FOR THE

DEGREE OF Bachelor of Science in Architecture

John Watrous Chase
Instructor in Charge

APPROVED:...

W. Gifford Pickel

HEAD OF DEPARTMENT OF

Architecture



A CITY BANK.

Banking as an institution is very old. We know that some of the Greek temples were in a sense banks, that is, places where money was stored for safe keeping. It is not surprising that the earliest architectural reminiscences of bank buildings are Greek and Roman temples. Of course in classic times there was no such thing as a bank building pure and simple, it was only part of the temple. The buildings that house modern banks take their inspiration, for the most part, from classic styles. The present type of bank, however, is purely a product of modern times which has been greatly influenced by new developments in construction, interior equipment and arrangement. Some fifty years ago bank buildings were generally low structures, and planned when room was plenty and light not at all a difficult problem. The bank generally occupied the whole building which often consisted of but a single room. The bank space gradually came to occupy less and less of the building.

We have three types.

- (1) Where the bank occupies the whole building.
- (2) Where the bank does not occupy the whole building, but predominates.
- (3) Where the building is intended for other purposes and the bank is only incidental.

Banking Institutions may be divided into five general classes, and combinations of these five classes in different ways. These five classes are Savings Institutions, Private Banking Houses, Banks, Trust Companies, and Safe Deposit Companies.

In any banking institution the public floor should be such that the crowds can circulate well, and provision should always be made for indefinite expansion.

We may also divide large banks into four types.

(1) Metropolitan commercial banks.

(2) City commercial banks.

(3) Savings commercial banks.

(4) Trust companies.

The Metropolitan commercial bank has numerous county affiliations and requires more space for book-keepers, clerks, and office department and has less counter space for customers.

The City commercial bank serves a trading community. Its chief business is discounts and deposits and requires a large public department and a large space for clerks and tellers.

The Savings commercial bank must accommodate a large number of people on dividend days.

The Trust companies have far less the character of a bank. They have fewer people and are under different conditions. They require large private office space.

Some of the large banks have departments for the loan and discount, credit and correspondence, mail, notes, auditor and pass book, receiving tellers, paying tellers, drafts and exchange, collections, and book-keepers. Tellers are responsible persons who can generally act without frequent consultation. This is generally opposite from the loan and discount and near the officers. To facilitate quick communication each cage has a buzzer and hand passes. The book-keepers are generally quite near the tellers and to the rear. They should have plenty of

space. This is a large clerical force to which the public has no access.

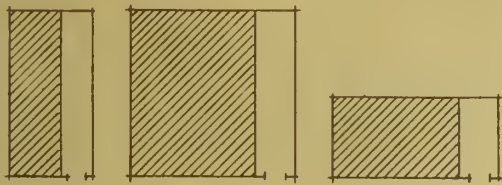
The fundamental arrangement of public and working space may be divided into six typical plans, as shown in Plate I. Typical plan No.1, where the bank counter runs down the length of the room with public space on one side and working space on the other, is used generally when the room is long and narrow. This gives a long narrow public space but an ample length of counter space. In typical plan No.2. the bank counter runs across the room directly in front of a person entering the room. This plan is symmetrical with regard to the entrance and is a better plan than No.1. Typical plan No.3. is used where a longer screen is required than in No.2. The screen is placed so as to allow the public space to penetrate the working space on each side. The working space comes out nearer the door in the center. Typical plan No.4. is similar to No.3. except the public space penetrates the working space in the center instead of at the sides. Typical plan No.5. is similar to No.4. except that the working space is carried on around to the door, so that the public is entirely surrounded by the screen. Typical plan No.6. resembles No.5. except that the working space projects into the public space in different ways as shown. Types No.3. and No.5. are found more often than any of the others.

A wide difference is observed in the point of view of the officers as to whether the public should come in contact, to a greater or less extent, with the whole body of clerks or with as few officers or clerks as possible. It seems desirable, however, that the banking room should be of comparatively

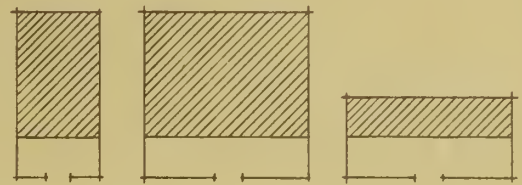
PLATE 1

Note:-

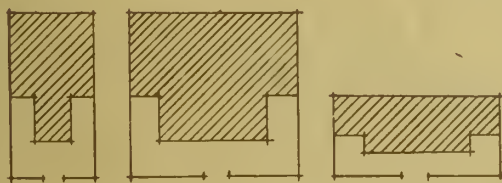
Part section lined indicates banking space.



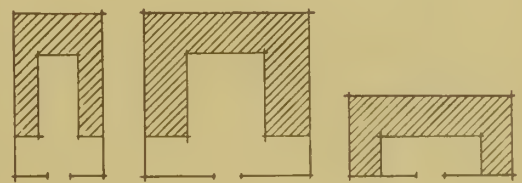
Plan 1



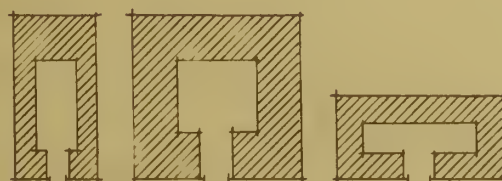
Plan 2



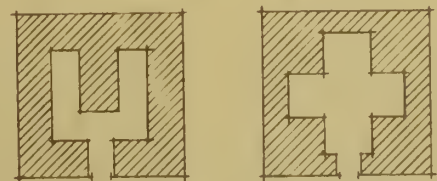
Plan 3



Plan 4



Plan 5

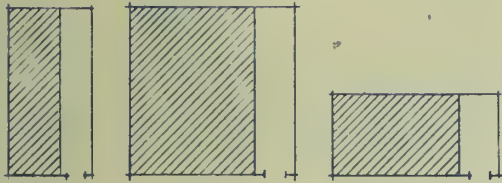


Plan 6

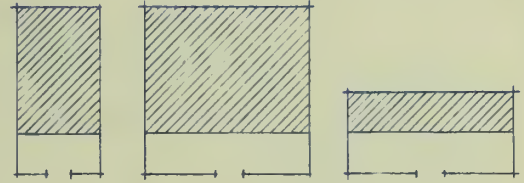
PLATE 1

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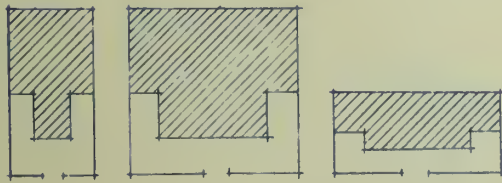
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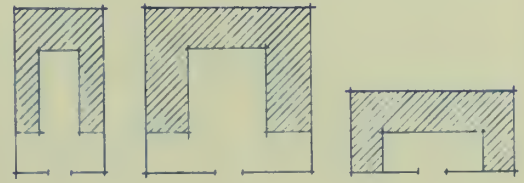
Plan 1



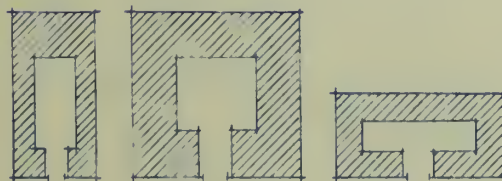
Plan 2



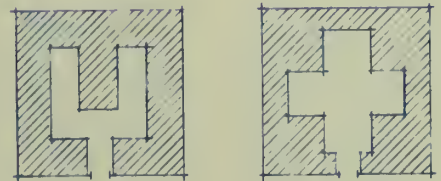
Plan 3



Plan 4



Plan 5



Plan 6

restricted size, and the great body of workers placed in rooms arranged in convenient communication with it. From the public point of view the display of working force is not near as impressive. But this can be remedied by having a gallery or point of vantage from which the public can see every clerk in the institution.

In regard to the relative percent of banking and public space the following banks chosen at random will serve as interest in this matter.

Corn Exchange National Bank, Philadelphia, Pa.

Banking space 82%. Public space 18%.

Hibernia Savings & Loan Society, San Francisco, Cal.

Banking space 84%. Public space 16%.

National Commercial Bank, Albany, N.Y.

Banking space 80%. Public space 20%.

International Trust Co. of Maryland, Baltimore, Md.

Banking space 83%. Public space 17%.

National Bank of St. Joseph, St. Joseph, Mo.

Banking space 80%. Public space 20%.

Knickerbocker Trust Co., New York City.

Banking space 82%. Public space 18%.

The Riggs National Bank, New York City.

Banking space 82%. Public space 18%.

The First National Bank of Wellsville, Wellsville, N.Y.

Banking space 82%. Public space 18%.

The Rochester Trust & Safe Deposit Co., Rochester, N.Y.

Banking space 82 1/2%. Public space 17 1/2%.

In no other line has the progress in bank design been greater than in the special equipment of the building. Points of great importance in bank design are compactness, simplicity, convenience, and accessibility of its furniture and the system of handling its documents, cash and other valuables. The vaults and the working space of the employees in whose charge are the valuables should have a convenient connection so that the cash may be easily conveyed to and from the safes and vaults. Cash and securities are no longer handled unnecessarily. In the daytime they are distributed in the classified compartments beneath the tellers' or cashiers' counter in an omnibus which just fits the space. At night the responsible officer locks this receptacle, sees it wheeled from his cage and locks it in his own compartment in the bank vault - the work of five minutes. Books are no longer carried laboriously to a book-vault at night at the expense of time and wear and tear to their bindings, but placed under the desks upon which they lie during the day, sliding into steel compartments upon roller shelves protected by steel doors, the whole lined with asbestos. These arrangements presuppose the modern building, with not only fire proof construction but marble or tile floors and bronze and steel furniture and fixtures throughout. In many banks nowadays the midday meal is cooked, served and eaten by the officers and clerks in rooms provided for this purpose, and some sort of room for exercise or recreation placed in connection with the clerks' locker room.

Since first the great problem, to have and to hold, was

propounded to mankind, there has been a relentless struggle to possess and a ceaseless battle to retain. This warfare has existed for untold centuries and will continue as long as man exists. To the solution of the latter part of this problem and as the result of years of thought and concentration we have the present Safe Deposit System. The modern Safe Deposit Vault is the result of evolution beginning coincident with the creation of property rights. When prehistoric man first found that a certain club, stone, herb, or thing had some virtue or value to him he annexed the same to his person or estate, thus creating a property right to the thing. As the value of the thing itself became known and was in turn appreciated by others, then the desire to maintain unharmed, as his very own, became more and more insistent within him. To accomplish this, things of value were hidden away in secret places, a hollow tree or a cleft in a rock secretly and zealously guarded, and from this beginning might be traced the modern Safe Deposit System. As centuries passed improvements for safe keeping kept pace with the advancement of civilization. In ancient Egypt the pyramids afforded security for those of royal blood. Others burrowed in the earth or hid in secret recesses, in castles strong, the fruits of conquest.

In the days when Rome was in the zenith of her power the plan of co-operative protection was first evolved. In strong chests stored in buildings guarded by a secret soldiery, was afforded protection as against the Romans themselves, but, alas, an invading army, all powerful and all conquering, sweeping every thing before it, sacked Rome and retired with the treasures

that were centered there. Thus the march of civilization was retarded and a blow delt to co-operative treasure vaults from which it took centuries to recover. Many plans were adopted in the interim. Recourse was had to witch-craft and sorcery, but only to find that some one bent upon securing wealth without honest labor feared neither witches, curses, nor law. The first decisive upward step was the strong box of the earlier period of the nineteenth century, itself a surviving remnant of the Roman idea, and quickly followed by the iron safe. In all these things the cupidity of man and his greed to acquire dishonestly has always more than kept pace with the ability of safeguards. Until the present day when a revival, in a measure, of the Roman co-operative plan, coupled with the inventive genius of modern civilization has produced the drill proof, nickel steel, armor plate, fire, mob, and burglar proof safe deposit vault of the present day.

It is a long stretch from the pre-historic man, to the present age, but a comparison of the primitive methods of our more immediate ancestors with the modern equipment of the Safe Deposit Department of a modern bank is equally as amazing. It is truly difficult to comprehend and appreciate the wonderful strides in safe-keeping devices produced in recent years.

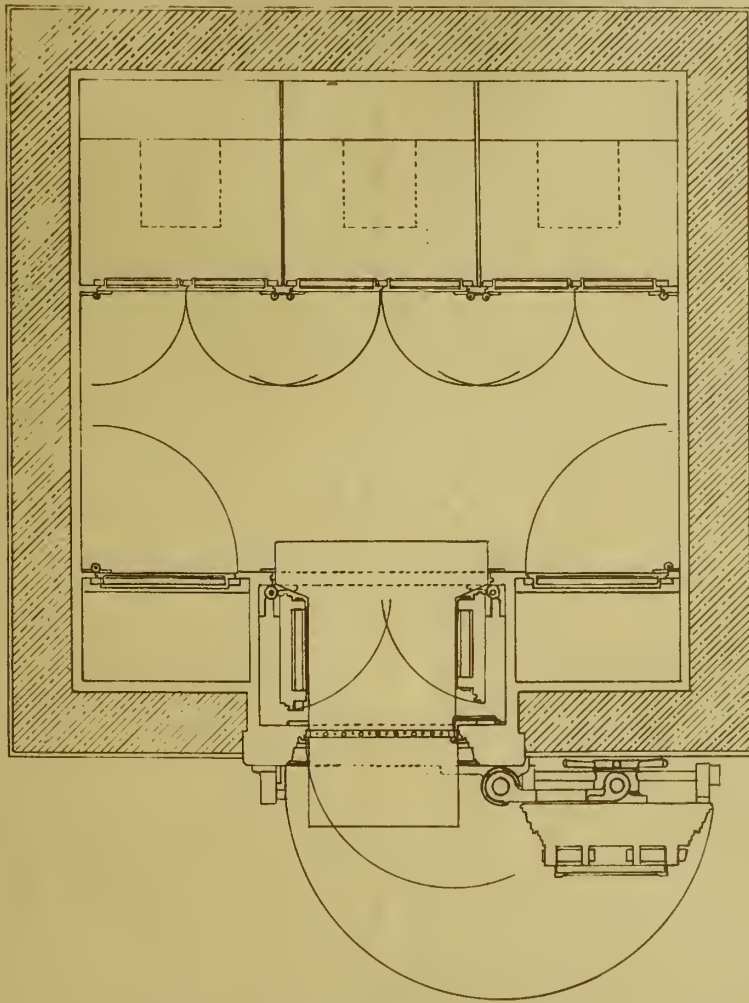
The history of the art of vault and safe building - for safes are practically small vaults - has little that is of interest to one not directly connected with their manufacture. With the exception of some truly ingenious and artistic treasure chests nearly all the work in this line made before the last quarter of a century is remarkable mainly for its crudeness

both in design and workmanship. This remark, however, does not apply to the subject of locks, which command the greatest inventive ingenuity and the highest mechanical skill. Many examples of the period of fifty years ago are approached neither in workmanship nor in finish by present manufacturers. The present outlook for vault building shows a wide field; many new banks, trust companies and safe depositories are being started throughout the country all of which call for new work.

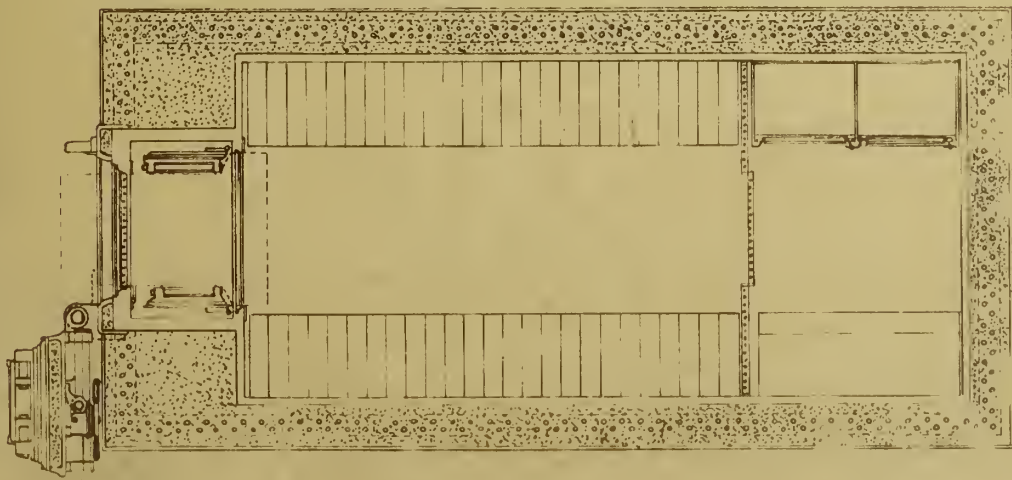
The general plans of vaults are nearly as diverse as the number of vaults built, but they may be collected into a few classes, such as vaults for Trust Companies, National Banks, Savings Banks, Safe Deposit Companies, and Institutions combining the Banking and Safe Deposit features. Plates 2. and 3. show typical vault plans for the various banking institutions.

Ten percent of the cost of the building frequently goes into the vault, the bank and safe deposit requirements being combined for the greater economy of construction and protection. In considering such a vault, we find its width depends upon the number of its aisles, each lined upon each side with tiers of boxes; its length to depend upon the combined requirements of the safe deposit receptacles and the space made necessary by the business of the bank. Infrequently the interior of such a vault is two stories in height, the intermediate floor being constructed of light, open gratings. The usual type of vault has, however, but a single aisle, four feet wide, with boxes two feet deep upon each side of it. If the door to the safe deposit space is in one end of this vault, and the door to the banks

PLATE 2

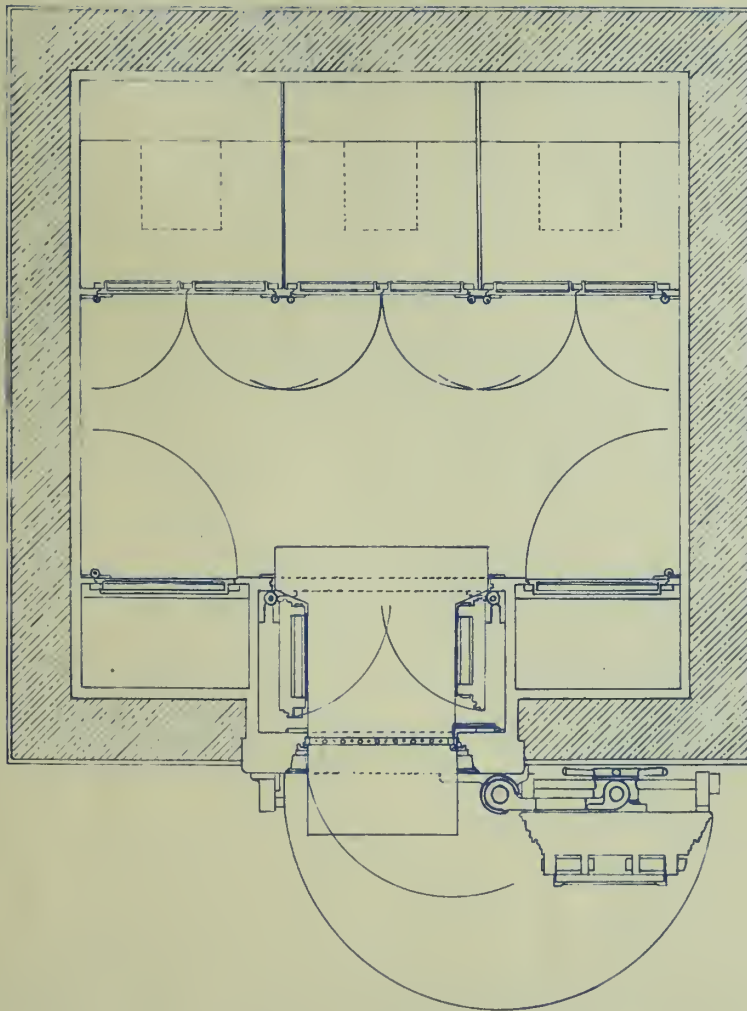


↑ TYPICAL VAULT PLAN FOR A NATIONAL BANK OR TRUST COMPANY. ↓

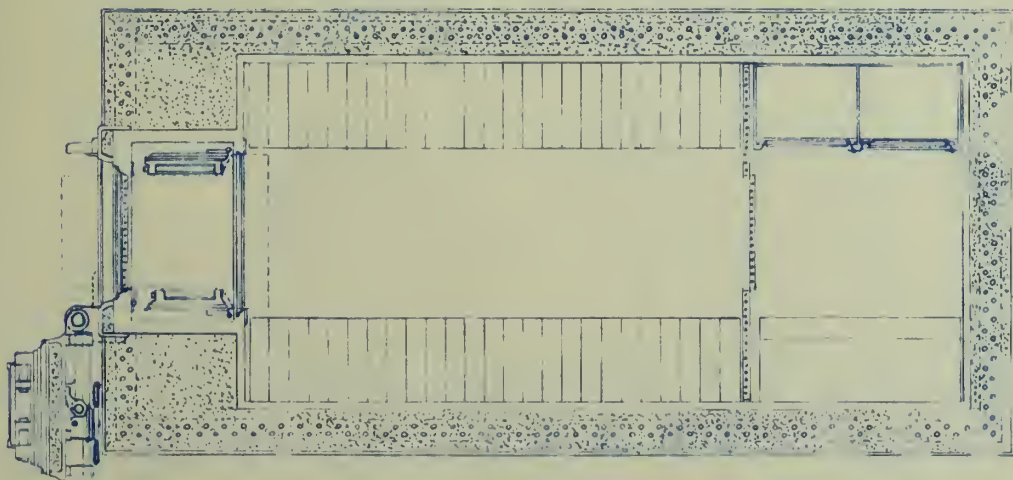


TYPICAL VAULT PLAN FOR A BANK AND
SAFE DEPOSIT COMPANY.

PLATE 2

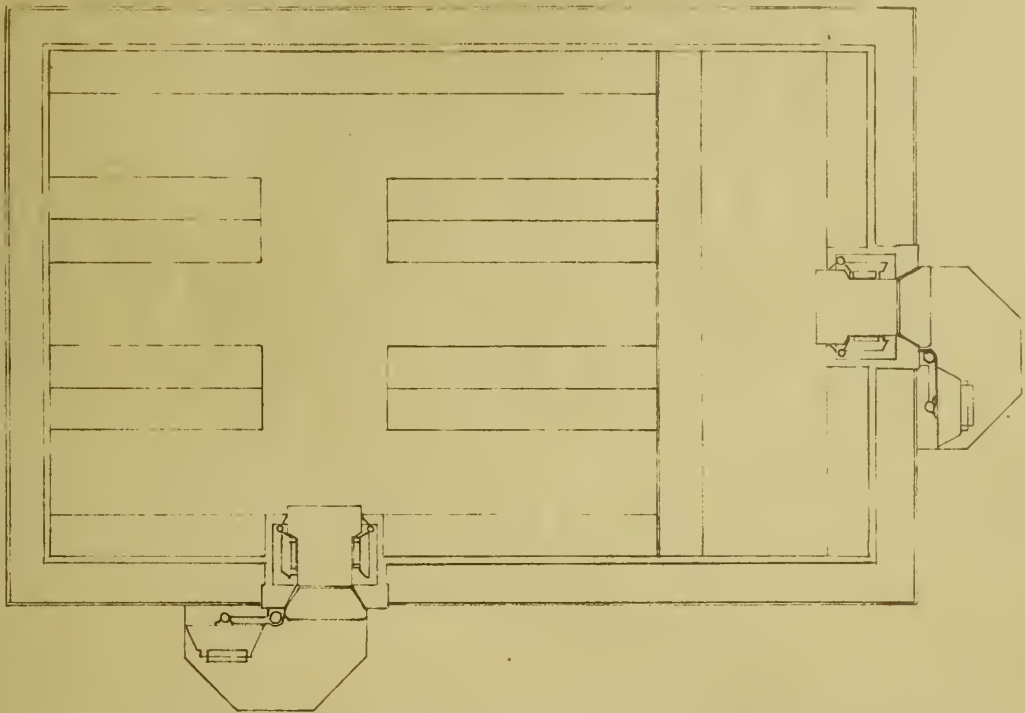


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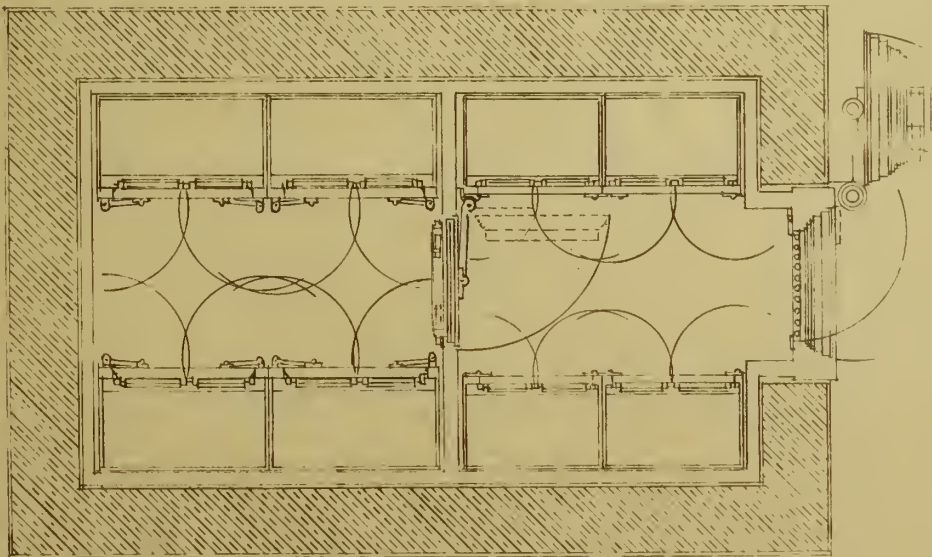


TYPICAL VAULT PLAN FOR A BANK AND
SAFE DEPOSIT COMPANY.

PLATE 3

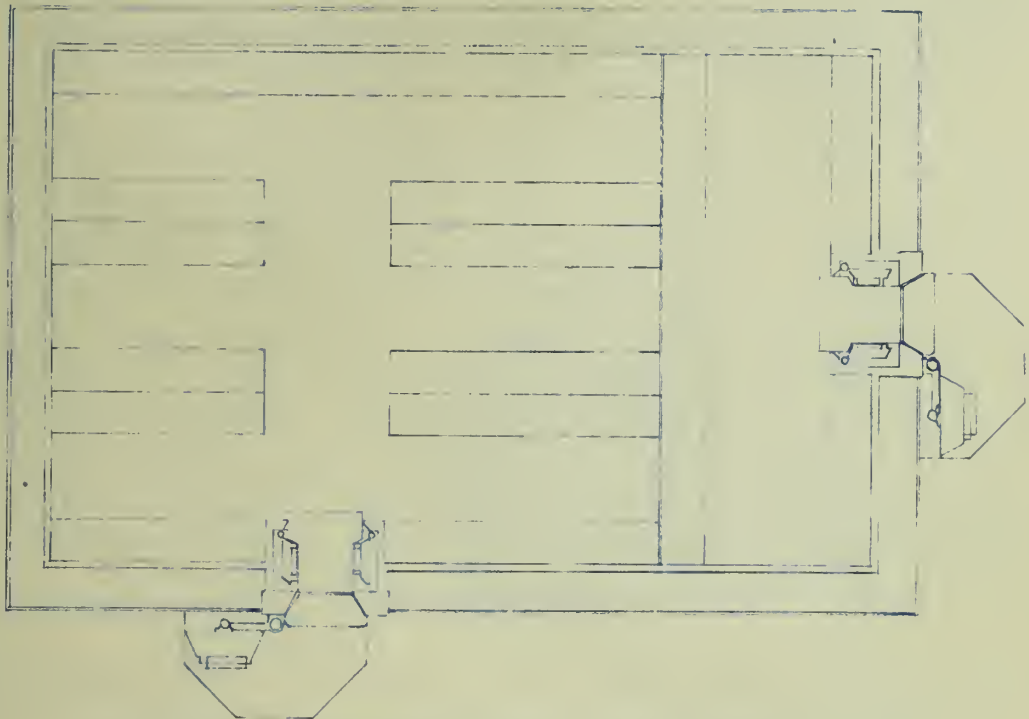


TYPICAL VAULT PLAN FOR A TRUST COMPANY AND SAFE DEPOSIT COMPANY.

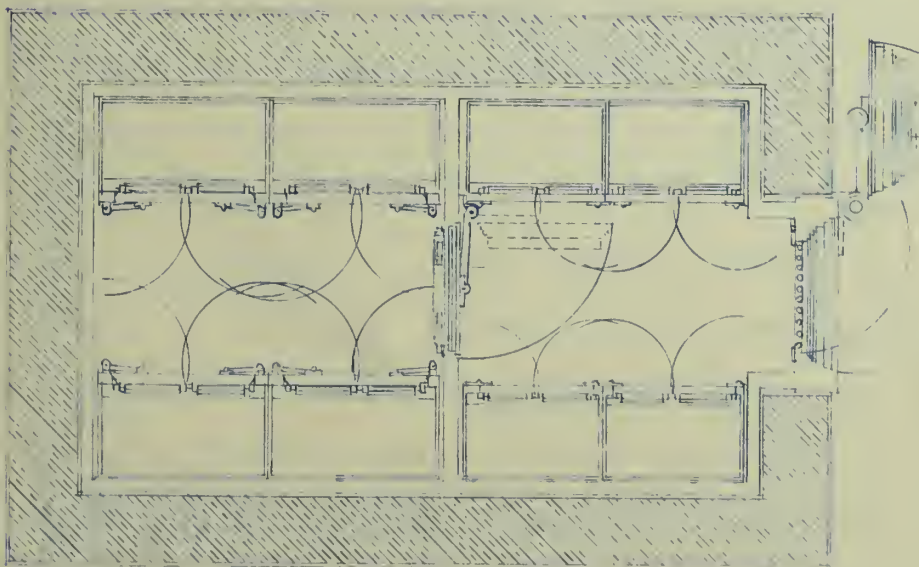


TYPICAL VAULT PLAN FOR A SAVINGS BANK.

PLATE 3



TYPICAL VAULT PLAN FOR A TRUST COMPANY AND SAFE DEPOSIT COMPANY.



TYPICAL VAULT PLAN FOR A SAVINGS BANK.

space in the other, then the two compartments are separated simply by a light steel partition with an emergency gate, the danger of a lockout is averted and the protection of the vault simplified. In the present day every safe deposit patron carries his own key, and as an additional precaution, he can not open the safe which contains his safe deposit box until first the master key, in the hands of an attendant releases the primary lock; entrance to the vault can be had only in company with an attendant; none but safe renters are allowed in the vault room and generally only one at a time in the vault. There are no duplicate keys and no one but the actual renter or his legally appointed deputy has access to his safe.

Although it is by no means invariably done, a vault should be protected, no matter how thick its construction proper, by a casing of concrete, and, if this concrete contains in addition a fence of steel jail-rods, set close together in a double row, staggered and run through a number of heavy thimbles, a high degree of protection is provided, since it will require some hours of hard work with the cold chisel before an electric arc can be used to attack the vault itself.

The safety deposit vaults are usually located in the basement and should be isolated so that they may be inspected on all sides. They also should have two entrances so as to guard against lockouts by time locks. Vaults are built on their own foundations as any sagging of the floor would bind the door and prevent the mechanism from operating. The circular vault doors are ground to an absolutely perfect liquid-proof

joint, each fitted to its respective jamb in a manner similar to the seating of a disk valve. The vault should be open for inspection all the way around and not built up to the ceiling.

In a bank as in most buildings where the cellars are far below the street level, great care has to be used to make the floors, walls, etc., absolutely proof against water and dampness. Among the various preparations of high rank used for water and damp-proofing may be named the following:

Anti-Hydro, manufactured by F. M. Hausling Co. for cement waterproofing. It is a liquid solution which when added to the water used in mixing portland cement in the usual way, has the effect of rendering the cement in all kinds of masonry impervious to water, moisture, frost, etc.

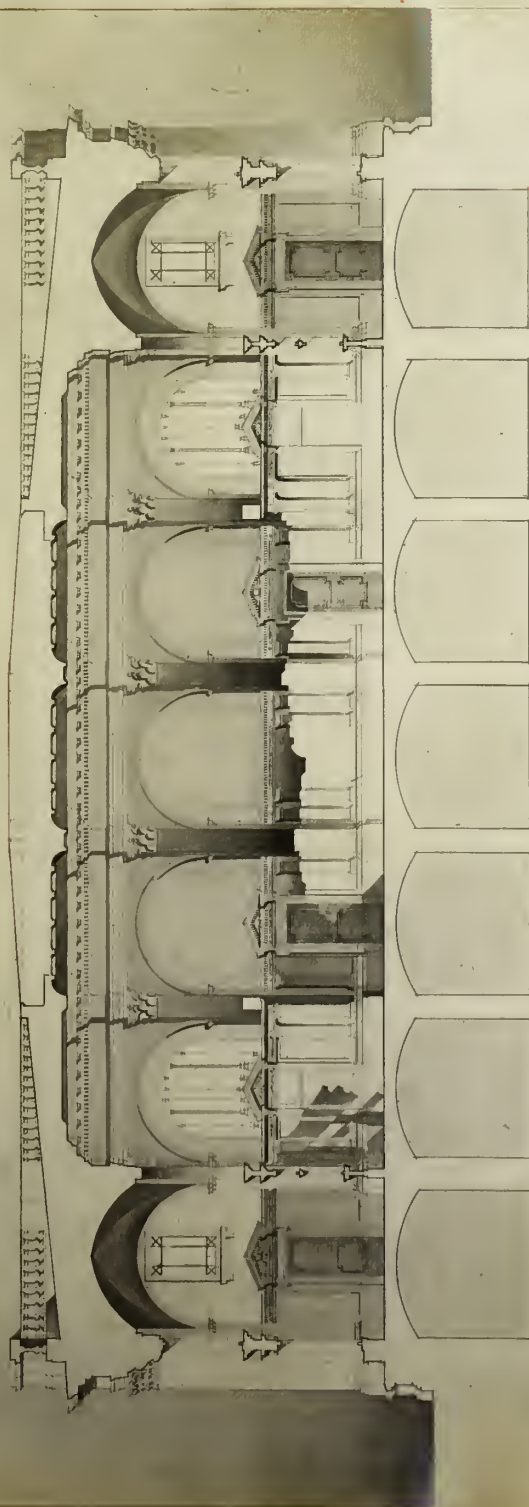
"Medusa" a water-proof compound manufactured by the Sandusky Portland Cement Co. is a compound that is thoroughly mixed with dry cement before the addition of sand and water.

Hydrolithic Coatings manufactured by E. J. Winslow Co., also Dehydratine manufactured by A. C. Horn Co. are applications used on the surface of brick, stone, or concrete construction.

The architecture of a bank contributes to a large degree to the prestige and reputation of the bank. American bank interiors are usually a thing of colored marbles, stained glass, tinted panels, gilded carvings, and highly polished woods. The ceiling should be high enough to give dignity to the building. The lighting conditions control, to a certain extent, the various shapes given the counter. Natural lighting is always to be preferred to artificial and lighting from above should

be used where possible.

In concluding it may be said in regard to design in a bank building, more than elsewhere, one should find durability, dignity, and simplicity. It should look its character, that of a business house in which the elements of security and solidity are emphasized. Necessarily a comparatively low building, if it houses the bank alone, it must hold its own in scale and dignity with buildings on either side of it five or six times its height. It must be in a style permanently acceptable, since it is built not for one or two years, but for a long period of time.



SECTION
-SCALE ONE INCH EQUALS FOUR FEET-

• THESIS • • A • CITY • BANK • • DESIGN •



MAIN ELEVATION

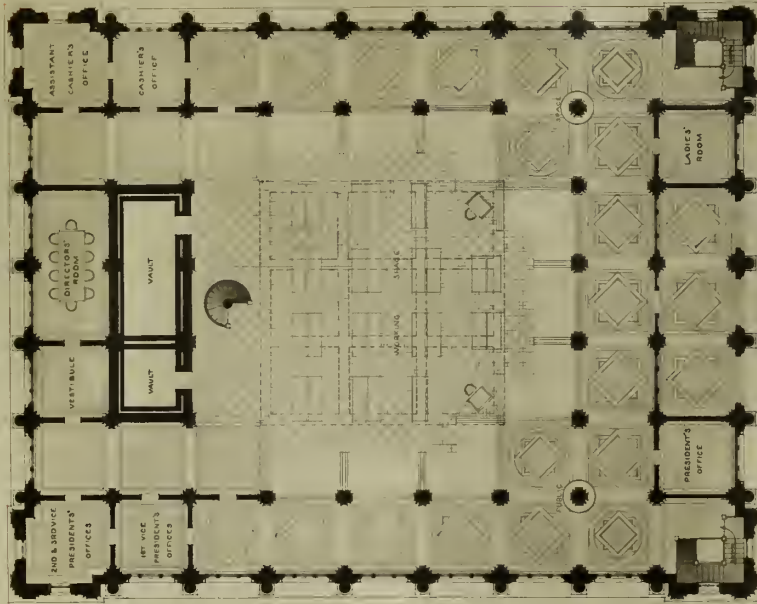
SCALE-ONE INCH EQUALS FOUR FEET

• THESIS • A • CITY • BANK • DESIGN •



BASEMENT FLOOR PLAN

- SCALE ONE INCH EQUALS EIGHT FEET -



FIRST FLOOR PLAN

- SCALE ONE INCH EQUALS EIGHT FEET -

A · CITY · BANK ·

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